All Gas Porous Media Burner

APPLICATION
- burning of SOFC anode off gas
- burning of other low caloric fuels
- burning of natural gas for different processes

OPTIONAL
- blowers, ignition and flame monitoring equipment
- integration of heat exchangers for water heating, gas preheating or steam generation
- integration of a jet pump for low pressure drop
- geometry adjustment according to customer demand
- high temperature thermal insulation
- other sizes on request

KEY FEATURES
- burning of low and high caloric gases, from 3 MJ/m³ to 110 MJ/m³
- admixing of auxiliary fuel for caloric values below 3 MJ/m³
- high power density up to 10 MW/m³
- wide modulation range up to 1:10
- very low CO and NOx emissions < 10 ppm
- robust operation even during fluctuations of gas flow or gas composition
- temperature control by N type thermocouple

measured emissions during burning of low, medium and high caloric gases

burning chamber
**SUMMARY**

<table>
<thead>
<tr>
<th>type (examples)</th>
<th>EBZ-PMB-2</th>
<th>EBZ-PMB-5</th>
<th>EBZ-PMB-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>material</td>
<td>porous media body: SiSiC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>power range</td>
<td>0.3 - 2 kW</td>
<td>0.5 - 5 kW</td>
<td>0.8 - 8 kW</td>
</tr>
<tr>
<td>maximal operation</td>
<td>950 °C</td>
<td>1100 °C</td>
<td>1100 °C</td>
</tr>
<tr>
<td>temperature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pressure loss</td>
<td>12 mbar</td>
<td>10 mbar</td>
<td>10 mbar</td>
</tr>
<tr>
<td>diameter / height</td>
<td>Ø 130 mm × 180 mm</td>
<td>Ø 170 mm × 230 mm</td>
<td>Ø 200 mm × 260 mm</td>
</tr>
</tbody>
</table>
| instrumentation          | burning chamber temperature (N type thermocouple)  
                          | flame barrier temperature (N type thermocouple)  
                          | mixing chamber temperature (N type thermocouple) |
| ignition                 | ignition electrodes or glow plug |

**FUEL GAS**

- **CO (Vol%)**
- **CO₂ (Vol%)**
- **H₂ (Vol%)**
- **N₂ (Vol%)**
- **CH₄ (Vol%)**
- **H₂O (Vol%)**
- **temperature (°C)**
- **maximal pressure loss (mbar)**
- **min. flow rate [l N,STP/min]**
- **max. flow rate [l N,STP/min]**
- **other**

**OTHER / ADDITIONAL FLUID DATA**

- **combustion air temperature [°C]:**
- **max. exhaust gas temperature [°C]:**

**INTEGRATION OF HEAT EXCHANGER**

- **water**
- **no heat exchanger**
- **air**
- **evaporator**
- **other gases**
- **reformer**

**ADDITIONAL INFORMATION** (maximum available space, additional operating points, …)